

AUSTRALIAN MUSEUM SCIENTIFIC PUBLICATIONS

Myers, Alan A., 1995. Marine amphipods of Micronesia: Kosrae. *Records of the Australian Museum* 47(1): 27–38. [10 May 1995].

doi:10.3853/j.0067-1975.47.1995.4

ISSN 0067-1975

Published by the Australian Museum, Sydney

nature culture **discover**

Australian Museum science is freely accessible online at
www.australianmuseum.net.au/publications/
6 College Street, Sydney NSW 2010, Australia



Marine Amphipoda of Micronesia: Kosrae

A.A. MYERS

Department of Zoology,
University College, Cork, Ireland

ABSTRACT. Twenty-five species of marine amphipod are reported from Kosrae, Federated States of Micronesia. *Elasmopus aduncus* n.sp., *Paradexamine tafunsaka* n.sp., *Gammarella utwe* n.sp. and *Cerapus micronesicus* n.sp. are described.

MYERS, A.A., 1995. Marine Amphipoda of Micronesia: Kosrae. Records of the Australian Museum 47(1): 27–38.

A small collection of marine amphipods from Kosrae, Federated States of Micronesia was made available to me for study, by Dr Graham Edgar, University of Tasmania. The collection consisted of only four shallow-water samples, but these together produced 25 species of which four in the genera *Elasmopus*, *Paradexamine*, *Gammarella* and *Cerapus* were new to science. Nine families were recorded, the best represented were the Melitidae and Ampithoidae with 11 and 7 species each respectively. Descriptions of four new species are provided. Types are deposited in the collections of the Australian Museum, Sydney. All other material is currently in the collections of the writer, and will be donated to the Australian Museum on completion by the writer of the work in the region.

Abbreviations used in figures. Hd – Head, L – Labium, Mx1 – Maxilla 1, Md – Mandible, Mxp – Maxilliped, G1 – Gnathopod 1, G2 – Gnathopod 2, P3-7 – Pereopods 3–7, Ep 1-3 – Epimera 1–3, Us – Urosome, U1-3 – Uropods 1-3. T – Telson.

Elasmopus alalo Myers

Elasmopus alalo Myers, 1986: 273, figs 4, 5.
Elasmopus pseudaffinis.—Barnard, 1965: 501, figs 12–13.—Ledoyer, 1972: 219, pls 38,39.—Ledoyer, 1978 (in part): 273, fig. 29a.—Berents, 1983: 118; figs 15, 16.—Ledoyer, 1984: 65, fig. 30b (not *E. pseudaffinis* Schellenberg, 1938: 53, fig. 25).

Remarks. Myers (1986) noted the existence of two distinct species masquerading under the name *Elasmopus pseudaffinis* Schellenberg and established the name *E. alalo* Myers for the second species.

In the present material, adult males agree closely with those described from Tonga (Myers, 1986). In juvenile males, the palmar excavation on the male gnathopod 2 is weak or missing so that they resemble that appendage of *E. spinimanus* Walker, 1904. The possibility exists that *E. alalo* is in fact, the hyperadult form of *E. spinimanus*, from Sri Lanka, developing a deep palmar excavation in specimens over about 8.0 mm. The material figured by Ruffo (1969) from the Red Sea, under the name *E. steinitzi* (which does not appear to

be the same as the material figured in the original description by Ruffo, 1959) is also scarcely distinguishable from juvenile male *E. alalo*.

It would be premature to synonymise the above materials here, since topotypic material must be examined through its growth stages to ascertain the relationship of the species.

Distribution. Madagascar, Mauritius, north-eastern Australia, New Caledonia, Federated States of Micronesia, Kiribati, Marshall Islands, Tonga.

Elasmopus gracilis Schellenberg

Elasmopus gracilis Schellenberg, 1938, 59, fig. 31.—Ledoyer, 1967: 129, fig. 11.—Ruffo, 1969: 29, fig. 8.—Ledoyer, 1982: 488, fig. 176.—Myers, 1986: 277, figs 6, 7.

Elasmopus brasiliensis Barnard, 1965: 500, fig. 11 (not *E. brasiliensis* [Dana, 1853]).

Remarks. *Elasmopus gracilis* has been recorded from the Gilbert Islands (Schellenberg, 1938), from Tonga (Myers, 1986), from Madagascar (Ledoyer, 1967, 1982) and from the Red Sea (Ruffo, 1969). It has also been recorded from Micronesia (Barnard, 1965) under the name *Elasmopus brasiliensis* (Dana, 1853). Material described by Ledoyer (1967, 1982), by Barnard (1965), by Myers (1986) and in the present material, all show a characteristic sub-palmar ridge on the male gnathopod 2. Schellenberg neither described nor figured the ridge, but the description and figures otherwise agree with the above material. Ruffo's (1969) material is unique in possessing a row of strong spines on the anterior margin of the male gnathopod 2 carpus. For the moment all the above material is treated as synonymous.

Elasmopus aduncus n.sp.

Figs 1, 2

Type material. HOLOTYPE male, 4.2 mm, AM P42695, off Tafunsak village, Kosrae 5°22'N 163°02'E, rock washings from exposed reef flat, 16 July 1991, stn 4. PARATYPES (14) AM P42696 same data as holotype.

Description. Length to 4.2 mm. Pereon segments and pleon segments 1–2 with a few long dorsal setae. **Head:** with subocular notch, eye relatively large. **Antenna 1:** two-thirds body length, peduncular article 1 and 2 sub-equal in length, article 3 a little over half length of article 2, flagellum a little shorter than peduncle with about 18 articles, accessory flagellum composed of one long and one rudimentary article. **Antenna 2:** small, scarcely one-third length of antenna 1, peduncular article 4 longer than 5, flagellum shorter than combined length of articles 4+5 with four articles, the terminal article rudimentary. **Mandible:**

palp articles 2 and 3 subequal in length, article 3 weakly falcate. **Maxilla 1:** inner plate elongate with two long terminal pappose setae and numerous small fine setae. **Gnathopod 1:** coxa sub-quadrate with a few long distal setae, basis stout, carpus and propodus subequal in length, palm very oblique, dactylus fitting palm. **Male gnathopod 2:** basis stout, anterior margin with flange proximally protuberant, carrying about six large, curved spines along its mediolateral length, carpus short, cup-shaped, propodus enlarged, four times length of carpus, posterior margin convex, with small, sub-acute mediolateral tooth, palm short, weakly lobed, dactylus slender, curved, reaching along two-thirds of propodus posterior margin. **Female gnathopod 2:** basis slender, carpus more elongate, propodus less than two times length of carpus, palm very oblique, defined by a spine, dactylus fitting palm. **Pereopods 3–4:** typical for genus, propodus palm with spatulate spine. **Pereopods 5–7:** robust, basis posterior margin expanded, weakly to moderately convex, weakly crenulate. **Epimeron 1:** posteriorly rounded, lower margin with a single spine. **Epimera 2–3:** posterodistal margin scalloped, with small setae inserted between scallops, lower margin with two to three spines. **Uropod 1:** peduncle longer than rami, inner ramus longer than outer, peduncle and inner ramus with very long spines, outer ramus with a single spine. **Uropod 2:** peduncle short, inner ramus longer than outer, outer ramus lacking marginal spines. **Uropod 3:** peduncle short, inner ramus slender, about half length of outer ramus. **Telson:** apices excavate, each bearing one long and one short spine.

Remarks. *Elasmopus aduncus* appears to be closest to *E. hooheno* Barnard, 1970, which occurs in the same samples. *Elasmopus aduncus* differs from *E. hooheno* in the presence of a row of hooked spines on the basis of the male gnathopod 2, in the proximal expansion on the outer face of the anterior margin of that podomere, and in the configuration of processes on the propodus of that appendage. In addition, the inner ramus of uropod 3 is much shorter and more slender in *E. aduncus* than it is in *E. hooheno*. Diagnostic characteristics in combination are the short antenna 2, spinous basis and weakly toothed and weakly setiferous propodus of the male gnathopod 2, weakly toothed, non-castellate basis of pereopods 5–7 and scalloped posterior margins of epimera 1–3. *Elasmopus menurte* Barnard has similar pereopods 5–7 but differs in most other respects. The spatulate spine on the propodus of pereopods 3–4 is also found in *E. diplonyx* Schellenberg, 1938 and *E. atolgidus* Barnard, 1965. Both species are poorly known. *Elasmopus diplonyx*, as described by Barnard (1970), differs in lacking scalloped epimera and in having castellate pereopod 6–7 basis. Schellenberg's description is brief, but no mention is made of a spinose basis of the male gnathopod 2. *Elasmopus atolgidus*, known only from a female, appears to differ in the rounded telsonic apices, larger inner ramus of uropod 3 and non-scalloped epimera.

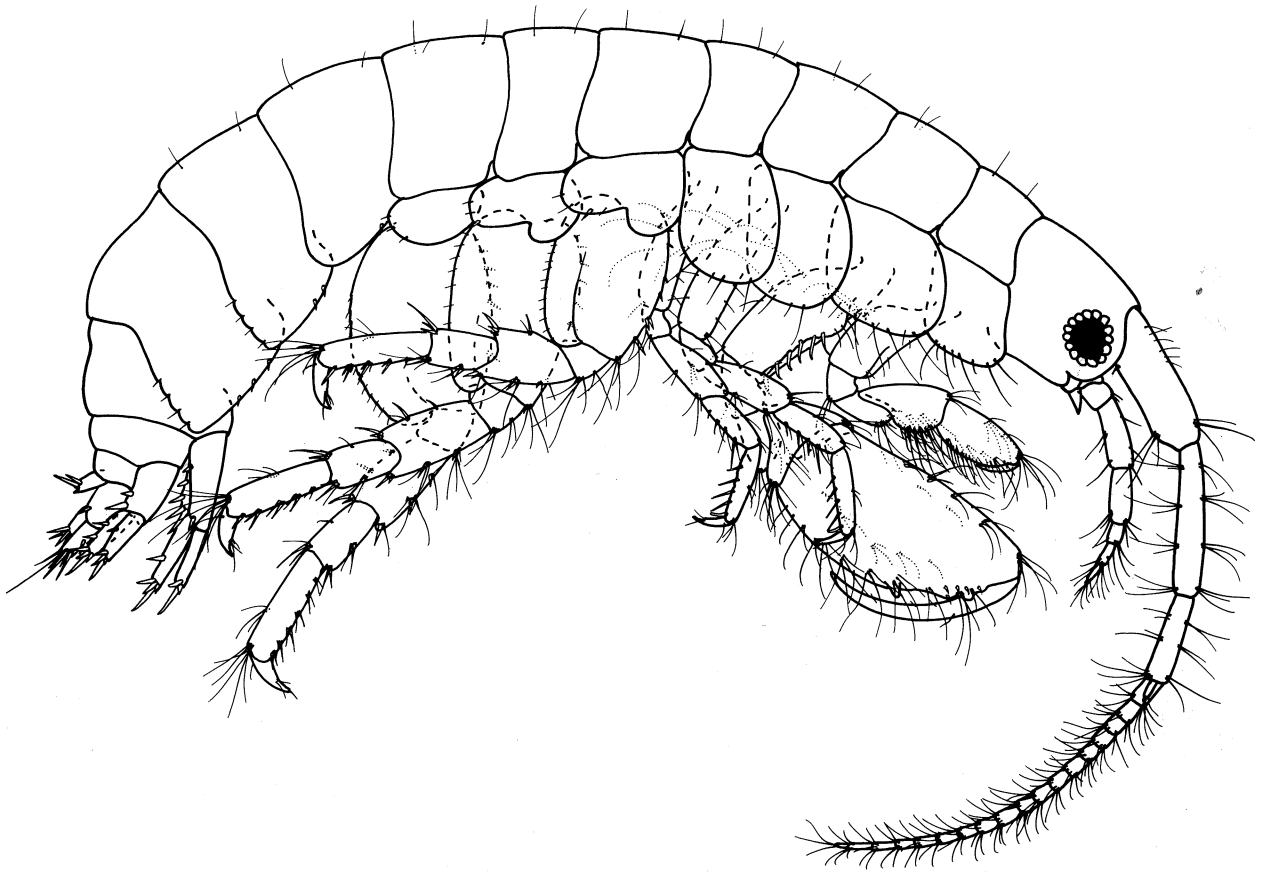


Fig. 1. *Elasmopus aduncus* n.sp. male, 4.2 mm; off Tafunsak Village, Kosrae.

Etymology. From the Latin *aduncus* meaning bent in, referring to the strong bent spines on the basis of the male gnathopod 2.

Melita celericula Croker

Melita celericula Croker, 1971: 100, figs 1, 2.

Remarks. Croker (1971) described this species from the Micronesian atolls of Enewetak, Majuro and Kwajalein where it was common. This species was one of the commoner amphipods in the present Kosrae collections.

Paradexamine tafunsaka n.sp.

Figs 3, 4

?*Paradexamine windarra* Ledoyer, 1984, p. 54, fig. 25; not *P. windarra* Barnard, 1972, 138, figs 78–80.

Type material: HOLOTYPE female, 2.7 mm, AM P42697, Tafunsak Village (5°22'N 163°02'E), rope-fibre tied to coral,

5 m depth, 28 October 1990, stn 3. PARATYPE female, AM P42805 same data as holotype.

Description. Length 2.7 mm. *Head:* with eye lobes rounded. *Antenna 1:* articles in the basodistal ratios 3:4:2, article 2 lower margin with discontinuity, a broad basal region delimited from a narrower distal region by a pair of stout, unequal spines, flagellum longer than peduncle with 14 articles. *Antenna 2:* only a little shorter than antenna 1, peduncle article 4 a little shorter than article 5, flagellum with four articles. *Mandible:* molar heavily tritulative, lacinia mobilis bifurcate. *Maxilla 1:* inner plate large, asetiferous, palp slender, reaching only 75% along outer plate and with two long terminal simple setae. *Maxilla 2:* inner plate short, little more than half length of outer plate and with three terminal setae. *Labium:* outer plate anterior margin with two sharp teeth. *Maxilliped:* inner plate tiny, tipped with one seta, outer plate broadly rounded, palp article 4 not reaching apex of outer plate. *Coxae 1–3:* narrowing a little distally, coxa 4 disproportionately larger than the preceding coxae, its posterior margin strongly concave. *Gnathopods 1–2:* of medium size, palms almost transverse, dactyls fitting palms. *Pereopods 3–*

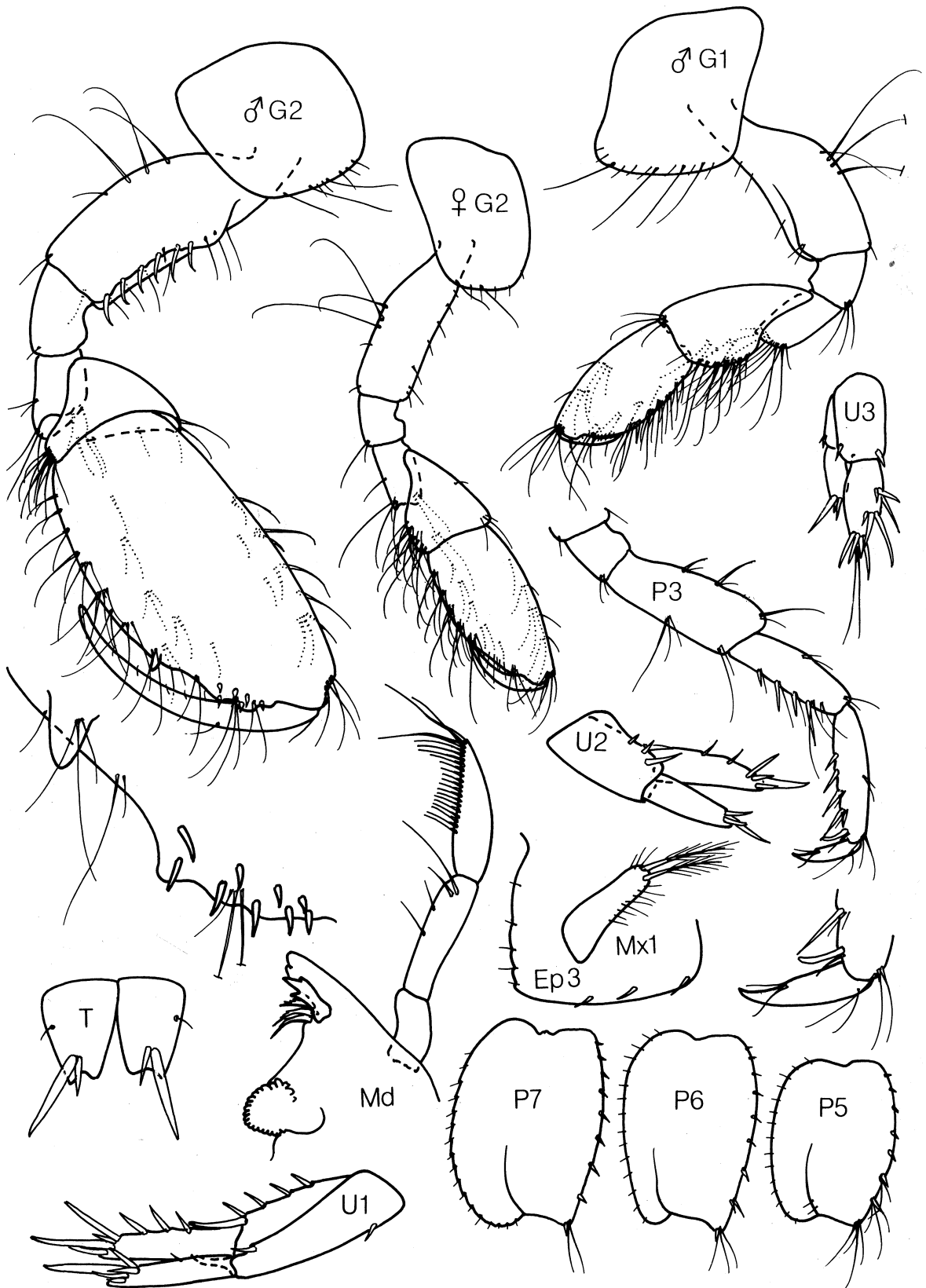


Fig. 2. *Elasmopus aduncus* n.sp. male, 4.2 mm, female 4.0 mm; off Tafunsak Village, Kosrae.

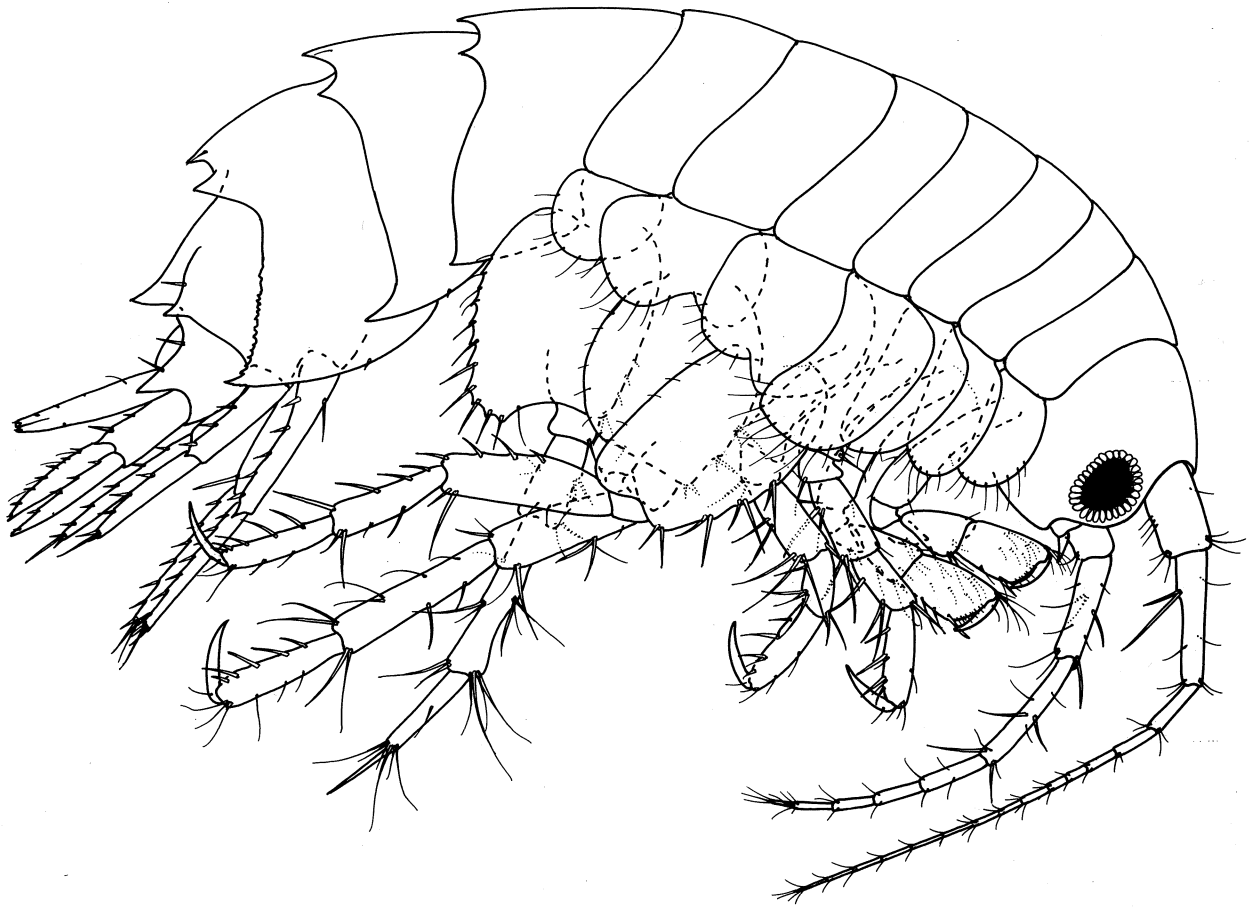


Fig. 3. *Paradexamine tafunsaka* n.sp. female, 2.7 mm; off Tafunsak Village, Kosrae.

4: basis with strongly produced anterodistal lobe, merus, carpus and propodus with strong spines. *Pereopod 5*: basis with well developed rounded posterodistal lobe. *Pereopod 6*: basis expanded, almost as broad as long. *Pereopod 7*: basis posterior margin expanded, crenulate and with a series of strong spines. *Epimera 1-3*: with very well developed, acute distal tooth, lower margins lacking spines, posterior margin of epimeron 3 finely and irregularly crenulate. *Pleon*: segments 1-3 and urosome segment 1 each with a strong dorsal tooth and a lateral tooth on each side (Formula 3.3.3.3.0 following Barnard, 1972), urosome lateral teeth with dorsal spine. Fused urosomites 2+3 also with lateral acute tooth. *Uropod 1*: peduncle longer than rami, with evenly distributed dorsal spines. *Uropod 2*: rami longer than peduncle. *Uropod 3*: rami longer than peduncle, outer ramus with spines, inner ramus with spines and setae. *Telson*: lobes each with apex bearing three small teeth and a spine.

Remarks. *Paradexamine tafunsaka* is very close to *P. windarra* Barnard, 1972 from Western Australia. It differs in the absence of any teeth on pereon

segment 7, in having fewer teeth on the telsonic lobe apices, in having a single spine only, on the lower margin of epimeron 2 and 3, in the broader pereopod 5 basis with evenly rounded posterodistal lobe and in the broad basis of pereopod 6 which is not distally constricted (N.B., P5-6 equals P3-4 of Barnard, 1972). In other respects it is not significantly different from that species. Present material agrees well with material from New Caledonia described under the name *P. windarra* Barnard by Ledoyer (1985). New Caledonian material differs, however, in having a small tooth on pereon segment 7, a markedly serrate pereopod 6 basis and no teeth on the outer plate of the labium. There appear also to be minor differences between New Caledonian and Kosrae specimens in the size and shape of the mesosomal teeth and epimeron 3 serrations. Western Australian material of *P. windarra* measured 3.95 to 4.4 mm, New Caledonian material, 6.0 mm. Both these materials are thus considerably larger than the Kosrae specimens. *Paradexamine tafunsaka* differs from the only other known Micronesian species, *P. orientalis* (Barnard, 1965) (not Spandl, 1924) in the round eye-lobes, distally expanded and spiny pereopod 7 basis, broad outer

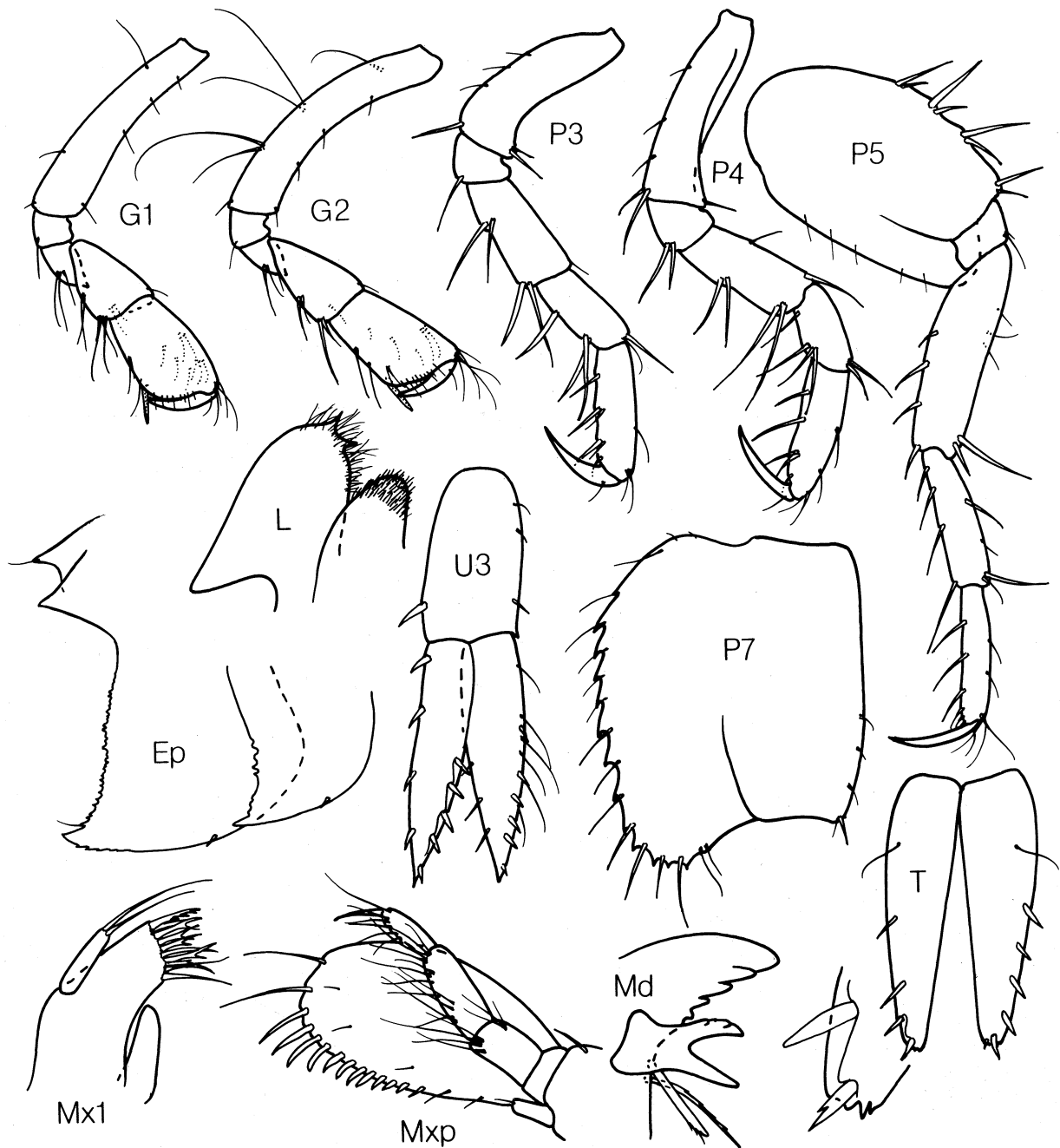


Fig. 4. *Paradexamine tafunsaka* n.sp. female, 2.7 mm; off Tafunsak Village, Kosrae.

plate of the maxilliped, short inner plate of maxilla 2, few-toothed telsonic apices and presence of lateral teeth on pleon segment 4. This last character was not described by Barnard (1965) but, as judged from his figure (25a) such teeth are absent. Ledoyer (1982) erected a new species, *P. micronesica* Ledoyer, for material from Tulear in Madagascar and tentatively synonymised Barnard's Micronesian material of

Dexaminoides orientalis with this species. Clarification of the status of *D. orientalis* Barnard (not Spandl) requires confirmation when more Micronesian material of the species becomes available.

Etymology. Named after the type locality.

Gammarella utwe n.sp.

Figs 5, 6

Type material: HOLOTYPE male, 4.5 mm, AM P42700, Utwe Harbour (5°17'N 162°59'E), among *Thalassia hemprichii* and *Enhalus acoroides*, less than 1 m depth, 30 June 1991, stn 2. PARATYPES (40) AM P42698 same data as holotype.

Description. Length to 4.5 mm, male, 6.0 mm, female. *Head:* with subocular notch, eye small. *Antenna 1:* about half body length, peduncular articles in the basodistal ratios 7:7:3, weakly setiferous, flagellum longer than peduncle with about 28 articles, accessory flagellum with four articles. *Antenna 2:* two-thirds length of antenna 1, peduncular article 4 longer than article 5, flagellum equal to combined length of peduncular articles 4+5, with about 20 articles. *Mandible:* triturative, palp article 2 the longest, article 3 slender, narrowing distally. *Maxilla 1:* inner plate densely setose along its inner margin. *Gnathopod 1:* slender, carpus much longer than propodus, setose, propodus palm short, oblique, with spine-setae, dactylus fitting palm. *Male gnathopod 2:* basis enlarged, carpus very reduced, cup-shaped, nearly three times as broad as long, propodus massive, over two times as long as broad, posterior margin straight or slightly concave, anteriorly with a small declivity and five peg-like spines, palm almost obsolete, defined by a pair of stout, small spines, dactylus enlarged, falciform nearly two-thirds length of propodus. *Female gnathopod 2:* basis slender, four times as long as broad, carpus and propodus slender, propodus slightly the longer, palm very oblique, defined by a small spine, dactylus fitting palm. *Pereopods 3–4:* slender, propodus posterior margin with a series of spines. *Coxa 4:* largest, posterior margin evenly concave. *Pereopods 5–6:* basis sub-pyriform, posterior margin with weakly concave and weakly crenulated flange, anterior margin spinose. *Pereopod 7:* basis with huge, convex, crenulated flange. *Epimeron 1:* rounded. *Epimeron 2:* with weak posteroventral tooth. *Epimeron 3:* with weak posterodistal tooth and weakly crenulated posterior margin. *Uropods 1–2:* stout, spinose. *Uropod 3:* short, outer ramus subequal with peduncle, with a strong, triangular second article, with strong spines at its base together with an outer marginal spine, inner ramus half length of outer ramus, triangular, lacking spines. *Telson:* cleft nearly to base, with a pair of spine-setae on the anterodistal margins, each apex with a weak concavity and a fine seta.

Remarks. This species is most closely allied to those *Gammarella* species which were originally attributed to the genus *Cottesloe* Barnard. It differs from other described species of this sub-group in the complete absence of any dorsal keels on the pleosome or urosome segments. It most closely resembles *Gammarella* (= *Cottesloe*) *berringar* (Barnard, 1974), from warm-temperate Australia, but that species has a strong acute keel

on urosome segment 1, an apparently slender basis on the male gnathopod 2, a falcate mandibular palp and several other minor differences. It also resembles the northern hemisphere *G. fucicola* (Leach, 1814) but that species has a urosomal keel and a different male gnathopod 2 (slender basis, strongly setose carpus and very long dactylus). This is the first record of the genus from Micronesia.

Etymology. Named after the type locality.

Cerapus micronesicus n.sp.

Fig. 7

Type material: HOLOTYPE male, 3.5 mm, AM P42699, Utwe Harbour (5°17'N 162°59'E), among *Thalassia hemprichii* and *Enhalus acoroides*, less than 1 m depth, 30 June 1991, stn 2.

Description. *Head:* rostrum acute, about one quarter length of peduncular article 1 of antenna 1, lateral cephalic lobes with subacute anteroventral corners. Body elongate, cylindrical. *Antenna 1:* well developed, setose, about half body length, peduncular articles 1–3 subequal in length, article 1 expanded postero-proximally, flagellum half length of peduncle with 5 articles. *Antenna 2:* well developed, setose, subequal in length with antenna 1, peduncular article 5 longer than 4, flagellum half length of peduncle, with 5 articles. *Mandible:* molar triturative with well developed flake, lacinia mobilis multidentate, palp article 3 a little shorter than article 2, slender with about 10 long setae on posterior and distal margins. *Maxilla 1:* inner plate small, with a single relatively short simple distal seta, palp with six apical spines and a row of five subapical setae. *Maxilla 2:* outer plate broader than inner, inner plate with numerous apical and medial setae, outer plate with a row of apical setae, a row of subapical setae and a few marginal setae. *Labium:* mandibular processes subacute. *Gnathopod 1:* subchelate, carpus with lobate posterodistal margin, propodus very oblique, dactylus fitting palm. *Male Gnathopod 2:* carpochele, basis swollen, about 1.5 times as long as broad, carpus enlarged, subtriangular, with large, acute, outwardly deflected posterodistal tooth, separated from a small, triangular medial tooth, by a round-bottomed excavation, propodus slender, about three times as long as broad, dactylus stout, elongate, two-thirds length of propodus. *Pereopods 3–4:* basis swollen, twice as long as broad and as long as combined length of articles 3–7. *Pereopod 5:* short, coxa 1.3 times as broad as deep, with a small posterior lobe, basis a little longer than broad, merus posterior lobe with long setae, exceeding combined lengths of articles 5–7, carpus telescoped into merus, dactylus unciniate with accessory tooth on anterior margin. *Pereopod 6:* slender, basis almost twice as long as broad, merus,

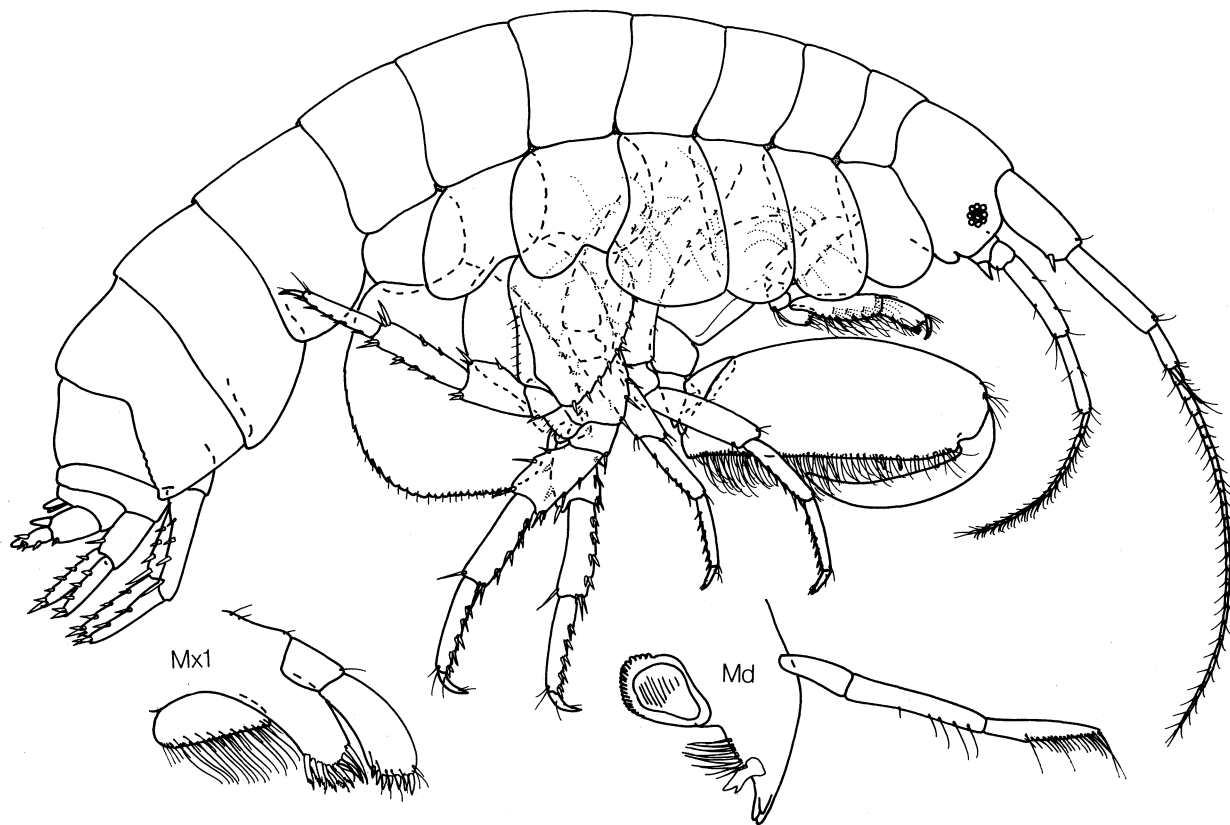


Fig. 5. *Gammarella utwe* n.sp. male, 4.5 mm; Utwe Harbour, Kosrae.

carpus and propodus elongate, carpus posterodistal margin with very long setae which greatly exceed combined lengths of propodus and dactylus, propodus with long distal setae, dactylus uncinata with accessory tooth. *Pereopod 7*: similar to pereopod 6, but merus, carpus and propodus all with very long distal setae. *Pleopods 1-3* decreasing in size, pleopod 3 inner ramus half length of outer ramus, outer ramus elongate and terminally narrow. *Uropod 1*: biramous, peduncle three times as long as broad, distally pectinate, outer ramus outer margin finely denticulate and with a few setae, with one large distal spine surrounded by minute spines, inner ramus half length of outer with a large distal spine surrounded by minute spines. *Uropod 2* uniramous, ramus weakly uncinata, asetose and less than one fifth length of peduncle. *Uropod 3*: uniramous, peduncle expanded about two-thirds as broad as long, ramus small, biuncinate. *Telson*: completely cleft, each lobe with a cluster of spines.

Female unknown.

Remarks. This species is undoubtedly very close to *C. oceanicus* Lowry, 1985. Notably it shares with that species, a completely cleft telson, a character state not

known in any other species of the genus. It does however, differ in several ways which seem to warrant specific recognition. The antennal flagella are relatively longer, the rostrum, although well developed is shorter than in *C. oceanicus*, the male gnathopod 2 is of different shape, the large carpal tooth is outwardly deflected, the small tooth is poorly developed and the propodus is very slender and pleopod 1-3 outer ramus is more elongate and slender and uropod 3 peduncle is less elongate and more swollen.

Some of the differences noted above, for example relative differences in the lengths of antennal articles, may be related to the small size of the present material (3.5 mm, as opposed to 6.1 mm to 6.8 mm in Samoan material). However, the male gnathopod 2 of present material appears quite mature and is very different from the developing (5.0 mm) male gnathopod 2 of *C. oceanicus* figured by Lowry (1985, fig. 8a). The Kosrae specimen does not therefore appear to be merely a juvenile of *C. oceanicus*, but to be an adult of a more diminutive species.

Etymology. From its collection site in Micronesia.

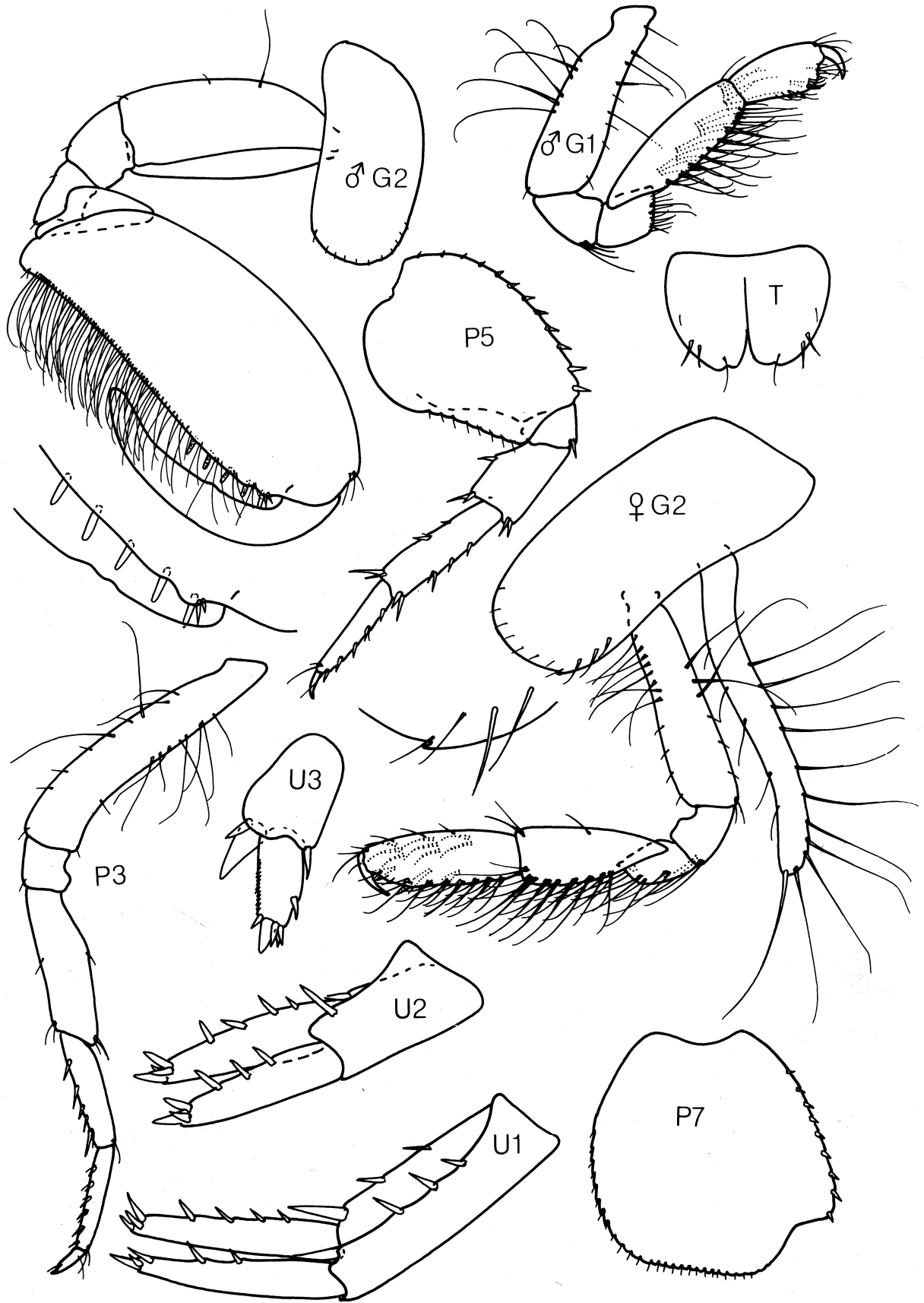


Fig. 6. *Gammarella utwe* n.sp. male, 4.5 mm, female 5.8 mm; Utwe Harbour, Kosrae.

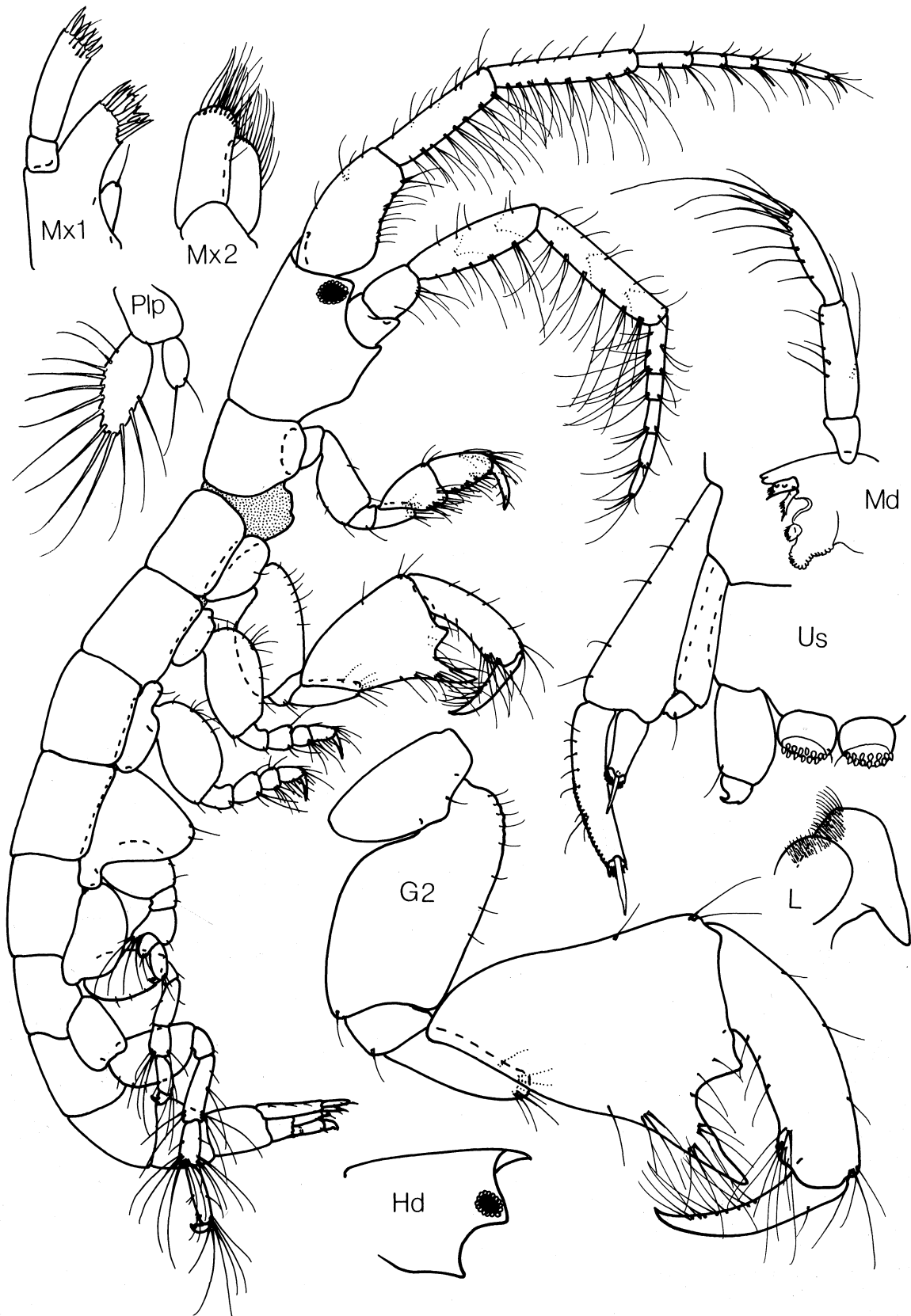


Fig. 7. *Cerapus micronesicus* n.sp. male, 3.5 mm; Utwe Harbour, Kosrae.

References

- Barnard, J.L., 1965. Marine Amphipoda of atolls in Micronesia. Proceedings of the United States National Museum 117(3516): 459–552.
- Barnard, J.L., 1970. Sublittoral Gammaridea (Amphipoda) of the Hawaiian Islands. Smithsonian Contributions to Zoology 34: 1–286.
- Barnard, J.L., 1972. Gammaridean Amphipoda of Australia, Part 1. Smithsonian Contributions to Zoology 103: 1–333.
- Barnard, J.L., 1974. Gammaridean Amphipoda of Australia, Part II. Smithsonian Contributions to Zoology, 139: 1–148.
- Barnard, J.L. & G.S. Karaman, 1987. Revisions in classification of Gammaridean Amphipoda (Crustacea), Part 3. Proceedings of the Biological Society of Washington, 100(4): 856–875.
- Bate, S., 1857. A synopsis of the British Edriophthalmous Crustacea Part 1: Amphipoda. Annals and Magazine of Natural History, ser. 2, 19(110): 135–152.
- Berents, P.B., 1983. The Melitidae of Lizard Island and adjacent reefs, the Great Barrier Reef, Australia (Crustacea: Amphipoda). Records of the Australian Museum 35(3&4): 101–143.
- Crocker, R.A., 1971. A new species of *Melita* (Amphipoda: Gammaridae) from the Marshall Islands. Pacific Science 25(1): 100–108.
- Dana, J.D., 1853. Crustacea. Part II. United States Exploring Expedition 14: 689–1618, atlas of 96 pls.
- Leach, W.E., 1814. Crustaceology. Appendix. The Edinburgh Encyclopaedia, 7: 429–434.
- Ledoyer, M., 1967. Amphipodes gammariens des herbiers de phanérogames marines de la région de Tuléar (République Malgache). Etude systématique et écologique. Annales de la Faculté des Sciences de l'Université de Madagascar 5: 121–170.
- Ledoyer, M., 1972. Amphipodes gammariens vivant dans les alvéoles des constructions organogènes récifales intertidales de la région de Tuléar. Etude systématique et écologique. Tethys Suppl. 3: 165–286.
- Ledoyer, M., 1978. Amphipodes gammariens (Crustacea) des biotopes cavitaires organogènes récifaux de l'île Maurice (Océan Indien). Bulletin of the Mauritius Institute 8(3): 197–332.
- Ledoyer, M., 1982. Crustacés amphipodes gammariens. Familles des Acanthonotozomatidae à Gammaridae. Faune de Madagascar 59(1): 1–598.
- Ledoyer, M., 1984. Les gammariens (Crustacea, Amphipoda) des herbiers de phanérogames marines de Nouvelle Calédonie (Région de Nouméa). Mémoires du Muséum National D'Histoire Naturelle (nouvelle série), série A, Zoologie, 129: 1–113.
- Lowry, J.K., 1985. Two new species of *Cerapus* from Samoa and Fiji (Crustacea: Amphipoda: Ischyroceridae). Records of the Australian Museum 36(3&4): 157–168.
- Myers, A.A., 1986. Amphipoda from the South Pacific: Tonga. Records of the Australian Museum 38(5&6): 271–289.
- Ruffo, S., 1959. Contributo alla conoscenza degli Anfipodi del mar Rosso (Materiali raccolti a Ghardaqa e nel Golfo di Aqaba). Contribution to the Knowledge of the Red Sea, 13. Bulletin of the Sea Fisheries Station, Haifa 20: 1–26.
- Ruffo, S., 1969. Studi sui Crostacei Anfipodi, terzo contributo alla conoscenza degli anfipodi del mar Rosso. Memorie del Museo Civico de Storia Naturale di Verona 17: 1–77.
- Schellenberg, A., 1938. Littorale Amphipoden des Tropischen Pazifics. Kungliga Svenska Vetenskapsakademiens Handlingar, ser. 3, 16: 1–105.
- Spandl, H., 1924. Die Amphipoden des Roten Meeres, in: Expeditionen S.M. Schiff "Pola" in das Rote Meer nördlich und südliche Hälfte 1895–96, 1897–98. Zoologische Ergebnisse 35. Denkschriften der Akademie Wissenschaften Wien Mathematisch-Naturwissenschaftliche Klasse 99: 19–73.
- Walker, A.O., 1904. Report on the Amphipoda collected by Professor Herdman, at Ceylon, in 1902. Report of the Government of Ceylon Pearl Oyster Fishery of the Gulf of Manaar 17: 229–300.

Accepted 9 January, 1995

APPENDIX 1

Station dates:

- Stn 1.** Utwe Harbour (5°17'N 162°59'E), from artificial rope-fibre habitats among *Thalassia hemprichii* and *Enhalus acoroides*, *in situ* for two months, less than 1 m depth, 28 October 1990.
- Stn 2.** Utwe Harbour (5°17'N 162°59'E), among *Thalassia hemprichii* and *Enhalus acoroides*, less than 1 m depth, 30 June 1991.
- Stn 3.** Tafunsak Village (5°22'N 163°02'E), rope-fibre tied to coral, 5 m depth, 28 October 1990.
- Stn 4.** Tafunsak Village (5°22'N 163°02'E), rock washings from exposed reef-flat, less than 1 m depth, 16 July 1991.

APPENDIX 2

Annotated list of species recorded from Kosrae

Family	Species	Males	Females	Immature	Stn No.
HYALIDAE	<i>Hyale galateae distorta</i> Myers	2	3		3
MELITIDAE	<i>Elasmopus alalo</i> Myers	14	6		3
		1			4
	<i>Elasmopus gracilis</i> Schellenberg	6	3		4
	<i>Elasmopus aduncus</i> n.sp.	10	10	1	4
	<i>Elasmopus hooheno</i> Barnard	13	7	2	1
	<i>Elasmopus seticarpus</i> Myers	1	3		4
	<i>Maera pacifica</i> Schellenberg	2			1
		1			2
	<i>Maera quadrimana</i> (Dana)	2			3
	<i>Maera serrata</i> Schellenberg	1			3
	<i>Mallacoota subcarinata</i> (Haswell)	1			1
	<i>Melita celericula</i> Croker	16	23		2
			1		1
	<i>Pareiasmopus suensis</i> (Haswell)	1			2
Un-named family	<i>Gammarella utwe</i> n.sp.	16	19	6	2
DEXAMINIDAE	<i>Paradexamine tafunsaka</i> n.sp.		2		3
AMPITHOIDAE	<i>Ampithoe kuala</i> Myers	16	24		3
	<i>Cymadusa brevidactyla</i> (Chevreux)	6			1
	<i>Cymadusa imbroglio</i> Rabindranath	7	12		1
	<i>Cymadusa filosa</i> Savigny	1			4
	<i>Cymadusa pilipes</i> (Ledoyer)	3	7		4
	<i>Paragrubia vorax</i> Chevreux		1		1
		9	17		3
	<i>Pleonexes kulafi</i> Barnard	7	12		3
ISAEIDAE	<i>Gammaropsis digitata</i> (Schellenberg)	55	72		4
ISCHYROCERIDAE	<i>Cerapus micronesicus</i> n.sp.	1			2
AORIDAE	<i>Grandidierella bonnieroides</i> Stephensen	11	15		1
		23	19		2
PODOCERIDAE	<i>Podocerus talegus</i> Barnard	2	2		3